



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/177,251	10/22/1998	ERIC C. ANDERSON	1062P/P180	2859
29141	7590	10/21/2003	EXAMINER	
SAWYER LAW GROUP LLP			HARRIS, TIA M	
P O BOX 51418			ART UNIT	PAPER NUMBER
PALO ALTO, CA 94303			2615	/ /
DATE MAILED: 10/21/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

PCT

Office Action Summary	Application No.	Applicant(s)
	09/177,251	ANDERSON, ERIC C.
	Examiner	Art Unit
	Tia M Harris	2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 August 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-7,9-22,28,30,32,34,36 and 38-42 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 - 5) Claim(s) _____ is/are allowed.
 - 6) Claim(s) 1-7,9-22,28,30,32,34,36 and 38-42 is/are rejected.
 - 7) Claim(s) _____ is/are objected to.
 - 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
 - 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

The applicant's amendments to claims 9 and 22 have overcome the objections to the claims.

Therefore, the objections are withdrawn.

Response to Arguments

1. Applicant's arguments filed 8/11/03 have been fully considered but they are not persuasive. The applicant argues that the combined invention of Omata (6067114), Ikemori (4826301) and Wakabayashi (4825235) does not teach or suggest determining whether the focus zone can be shifted so that at least one object is sufficiently out of focus, and if so, shifting the focus zone, and also setting the aperture size without shifting the focus zone after the focus zone has been shifted and if it has been determined that the focus zone can be shifted so that the at least one object is out of focus. The applicant further argues that the references also do not teach or suggest adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

The examiner respectfully disagrees with these assessments of the cited references, and maintains the position as stated in the previous Office Action dated 5/5/03.

As previously stated, the combined invention of Omata and Ikemori discloses a method of capturing an image using an image capture device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device. Ikemori further discloses shifting the focus zone so that at least one object is out of focus if at least one of the plurality of objects is not out of focus (Col 11, Lines 41-60). In order to be able to shift the focus zone as taught by Ikemori, it is inherent that the focus be determined to be shiftable. Therefore, the method comprises the step of determining that the focus zone can be shifted so that at least one object is out of focus if at least one object is not out of focus.

Art Unit: 2615

Applicant further argues that Wakabayashi does not teach or suggest setting the aperture size without shifting the focus zone after the focus zone has been shifted if it has been determined that the focus zone can be shifted so that the at least one object is out of focus, and adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus. Examiner relies on the combination of Omata, Ikemori and Wakabayashi to teach these features, not Wakabayashi alone. The combination of Omata and Ikemori teach, as discussed above, determining whether the focus zone can be shifted so that the at least one object is out of focus and shifting the focus zone accordingly. If shifting the focus zone alone is not sufficient for the at least one object to be out of focus, one skilled in the art would know to incorporate the features of Wakabayashi, which teach setting the aperture size after the soft focus operation has been performed and adjusting the aperture size to shorten the focus zone to "*improve the soft-tone effect*" (Wakabayashi, Col 18, Lines 38-48).

The applicant also argues that Wakabayashi describes setting the aperture value "to be small to improve the soft-tone effect by decreasing the depth of field", and thereby describes setting the aperture value in order to decrease the depth of field, and that one of ordinary skill in the art would understand that the depth of field corresponds to the focus zone. Therefore, the applicant argues that Wakabayashi describes utilizing the aperture size to control the size of the focus zone, but fails to mention shifting (or not shifting) the focus zone, i.e. the cited portion of Wakabayashi fails to describe setting the aperture size such that the focus zone is not shifted. The examiner respectfully disagrees with this assessment of the reference. As previously mentioned, the applicant states that the depth of field corresponds to the focus zone. Therefore, if the depth of field is decreased or increased as necessary, the focus zone is

Art Unit: 2615

correspondingly being shifted. If the depth of field is at the desired position, it no longer needs to be adjusted, and the focus zone as well is not shifted.

Applicant further argues that Nagahata (5825016) does not mention adjusting the aperture size without shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone. However, the Examiner does not rely on Nagahata to teach this feature, but relies on the combined invention of Omata, Ikemori and Wakabayashi as discussed above. Examiner relies on the combination of the references to show the knowledge of one skilled in the art to use a combination of focus control and aperture control to create a desired soft focus effect. Such a procedure is old and very well known in the art.

For at least the reasons discussed above, the rejection of the claims is maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omata in view of Ikemori and Wakabayashi.

(Claims 1, 7, 10, 16-17, 28, and 32) Omata discloses a method for capturing an image using an image capture device (Col 3, Lines 9-20), the image capable of including a plurality of objects (see Fig 5), each of the plurality of objects being a corresponding distance from the imaging device (Col 5, Lines 8-10, 16-17), the image being associated with a focus zone (Col 3, Lines 60-62; Col 5, Lines 18-21), the method comprising the steps of determining if the image matches at least one criteria by determining the corresponding distance for each of the plurality of objects (Col 5, Lines 8-10, 18-21), determining whether at least one of the plurality of objects

Art Unit: 2615

is out of focus if the image matches the at least one criteria and shifting the focus zone by focusing the image on a selected main object (Col 4, Lines 12-15). Omata does not specifically disclose determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus and shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus, and if it is determined that the focus zone can be shifted so that the at least one object is out of focus, setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus, and adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

Ikemori discloses a photographic system having a soft focus function wherein it is determined that the focus zone can be shifted so that at least one object is out of focus if the object is not out of focus, and shifting the focus zone so at least one object is out of focus (Col 11, Lines 34-60).

Wakabayashi discloses a camera having a soft focus filter, wherein the aperture value is adjusted to improve the soft-tone effect by decreasing the depth of field (Col 18, Lines 38-48).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the method of shifting the focus zone so at least one object is out of focus in the invention disclosed by Omata, as taught by Ikemori, to produce a special effect such as soft focus on the background of the image, which is well known in the art, so the main object (foreground image) would appear sharper. Furthermore, only changing the aperture in the Wakabayashi reference creates soft focus effect. When focused on an object of interest, and a soft focus mode is desired, it would have been obvious to one having ordinary skill in the

Art Unit: 2615

art at the time the invention was made to change only the aperture size in order that the object of interest would remain in focus during the soft focus effect.

(Claims 2 and 11) Omata discloses the step of determining if an image matches at least one criterion by determining the corresponding distance for each of the plurality of objects (Col 5, Lines 8-10, 16-20).

(Claims 4 and 13) Omata further discloses separating the image into a plurality of zones and analyzing the image in each of the plurality of zones to determine if the image matches the criteria (Col 3, Lines 34-35; Col 5, Lines 5-10, 18-21).

(Claims 5 and 14) Omata further discloses determining the amount of each zone and a number of zones, which a particular object occupies (Col 5, Lines 55-67; Col 6, Lines 1-9).

(Claims 6 and 15) Omata further discloses the image includes a center and at least one criterion includes a location of a particular object of the plurality of objects being in proximity to the center of the image (Col 4, Lines 25-29).

(Claim 18) Omata also discloses the image capture device is a digital camera (Col 3, Lines 9-17).

(Claim 19 and 34) Omata further discloses a computer-readable medium containing a program for capturing an image capable of a plurality of objects, the program includes instructions for controlling the devices that determine if an image matches at least one criterion and determining whether at least one of the plurality of objects is out of focus (Col 3, Lines 54-67). Ikemori inherently discloses program instructions that control determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus and shifting the focus zone so at least one object is out of focus (Col 11, Lines 34-60).

(Claims 20 and 21) Refer to rejection of Claims 7 and 17 above respectively.

(Claims 38 and 40-41) The combination of Omata and Ikemori teach, as discussed above, determining whether the focus zone can be shifted so that the at least one object is out of focus and shifting the focus zone accordingly. If shifting the focus zone alone is not sufficient for the at least one object to be out of focus, one skilled in the art would know to incorporate the features of Wakabayashi, which teach setting the aperture size after the soft focus operation has been performed and adjusting the aperture size to shorten the focus zone to “*improve the soft-tone effect*” (Wakabayashi, Col 18, Lines 38-48), thereby adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

4. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omata in view of Ikemori and Wakabayashi as applied to claim 2 above, and further in view of Nagahata.

The combined invention of Omata, Ikemori and Wakabayashi discloses a method of capturing an image containing a plurality of objects, as discussed above. Omata and Ikemori disclose focusing on the background or foreground of an image (Omata – Col 1, Lines 24-28; Ikemori – Col 7, Lines 40-41), but do not specifically disclose categorizing the objects of an image as being located in the foreground or background of an image based on corresponding distances.

Nagahata discloses a focus detection device that can be used to capture an image containing a plurality of objects (see Fig 5). It is disclosed that the object, which is farther away from the camera, is considered to be in the background, and the object that is closest to the camera is considered to be in the foreground (Col 7, Lines 60-67; Col 8, Lines 1-5).

It is very well known in the art that an object farther away from a camera is considered to be in the background of an image, and an image closer to the camera would be considered to

Art Unit: 2615

be in the foreground of the image. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made that since the cameras disclosed by Omata and Ikemori, used in the combined invention of Omata, Ikemori and Wakabayashi, are both capable of capturing an image containing a plurality of objects, they would determine whether an object is in the foreground or background of an image based on the distances the objects are from the camera, in the manner taught by Nagahata, so the desired focusing of the objects in the image (such as soft focusing) could be correctly performed.

5. Claims 9, 22, 30, 36, 39, and 42 rejected under 35 U.S.C. 103(a) as being unpatentable over Omata, Ikemori, Nagahata and Wakabayashi.

(Claims 9, 22, 30 and 36) Omata discloses a method for allowing an image having a center to be captured by an imaging device (Col 3, Lines 9-20, Col 4, Lines 25-29), the image capable of including a plurality of objects (see Fig 5), each of the plurality of objects being a corresponding distance from the imaging device (Col 5, Lines 8-10, 16-17), the image being associated with a focus zone (Col 3, Lines 60-62; Col 5, Lines 18-21), the method comprising the steps of determining if the image matches at least one criteria by determining the corresponding distance for each of the plurality of objects (Col 5, Lines 8-10, 18-21), determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criteria and shifting the focus zone by focusing the image on a selected main object (Col 4, Lines 12-15). Omata further discloses separating the image into a plurality of zones and analyzing the image in each of the plurality of zones to determine if the image matches the criteria (Col 3, Lines 34-35; Col 5, Lines 5-10, 18-21) and determine the amount of each zone and a number of zones, which a particular object occupies (Col 5, Lines 55-67; Col 6, Lines 1-9). Omata also discloses the image includes a center and at least one criterion includes a location of a particular object of the plurality of objects being in proximity to the center of the

Art Unit: 2615

image (Col 4, Lines 25-29). Omata further discloses a computer-readable medium containing a program for capturing an image capable of a plurality of objects, the program includes instructions for controlling the devices that determine if an image matches at least one criterion, determining whether at least one of the plurality of objects is out of focus, and shifting the focus zone so the at least one object is out of focus if at least one of the plurality of subjects is not out of focus (Col 3, Lines 54-67). Omata does not specifically disclose categorizing the objects of an image as being located in the foreground or background of an image based on corresponding distances and shifting the focus zone so at least one object is out of focus, determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus and shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus, and if it is determined that the focus zone can be shifted so that the at least one object is out of focus, setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus, and adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

Nagahata discloses a focus detection device that can be used to capture an image containing a plurality of objects (see Fig 5). It is disclosed that the object, which is farther away from the camera, is considered to be in the background, and the object that is closest to the camera is considered to be in the foreground (Col 7, Lines 60-67; Col 8, Lines 1-5).

Ikemori discloses a photographic system having a soft focus function that discloses program instructions wherein it is determined that the focus zone can be shifted so that at least one object is out of focus if the object is not out of focus, and shifting the focus zone so at least one object is out of focus (Col 11, Lines 34-60).

Wakabayashi discloses a camera having a soft focus filter, wherein the aperture value is adjusted to improve the soft-tone effect by decreasing the depth of field (Col 18, Lines 38-48).

It is very well known in the art that an object farther away from a camera is considered to be in the background of an image, and an image closer to the camera would be considered to be in the foreground of the image. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made that since the camera disclosed by Omata is capable of capturing an image containing a plurality of objects, it would determine whether an object is in the foreground or background of an image based on the distances the objects are from the camera, in the manner taught by Nagahata, so the desired focusing of the objects in the image (such as soft focusing) could be correctly performed.

It would have been further obvious to include the method of shifting the focus zone so at least one object is out of focus in the invention disclosed by Omata, as taught by Ikemori, to produce a special effect such as soft focus on the background of the image, which is well known in the art, so the main object (foreground image) would appear sharper. Furthermore, only changing the aperture in the Wakabayashi reference creates soft focus effect. When focused on an object of interest, and a soft focus mode is desired, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change only the aperture size in order that the object of interest would remain in focus during the soft focus effect.

(Claims 39 and 42) The combination of Omata and Ikemori teach, as discussed above, determining whether the focus zone can be shifted so that the at least one object is out of focus and shifting the focus zone accordingly. If shifting the focus zone alone is not sufficient for the at least one object to be out of focus, one skilled in the art would know to incorporate the features of Wakabayashi, which teach setting the aperture size after the soft focus operation has been performed and adjusting the aperture size to shorten the focus zone to "*improve the*

Art Unit: 2615

"soft-tone effect" (Wakabayashi, Col 18, Lines 38-48), thereby adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia M Harris whose telephone number is 703-305-4807. The examiner can normally be reached on M-F 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

tmh TMH
10/7/03



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600